FEASIBILITY AND OUTCOME OF ACCELERATED RECOVERY PROTOCOL IN SEVERE ADOLESCENT IDIOPATHIC SCOLIOSIS (AIS) PATIENTS UNDERGOING POSTERIOR SPINAL FUSION (PSF)

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Background:
Perioperative management of severe AIS patients provides a major challenge to spine surgeons as higher complication rate, increased length of hospital stay and total cost have been reported compared to non-severe AIS patients. Implementation of accelerated recovery protocol in severe AIS patients undergoing PSF have not been studied till date.

Objective:
To determine the feasibility and outcome of accelerated recovery protocol in severe (Cobb angle ≥ 90°) AIS patients undergoing PSF.

Materials and methods:
Thirty-seven severe AIS patients undergoing PSF from 2019 to 2022 were recruited. Accelerated recovery protocol which consists of preoperative regime, preoperative surgery counselling, intraoperative strategies to fasten the surgery and reduce blood loss, rapid postoperative rehabilitation and multi-modal pain management regime was employed. Outcome measured using operation duration, intra-operative blood loss, postoperative pain scores, patient-controlled analgesia (PCA) morphine usage, length of stay, and detailed recovery milestones.

Results:
The mean Cobb angle was 101.8 ± 11.3°. Mean operative time was 2.9 ± 0.7 hours and mean intraoperative blood loss of 1064.6 ± 473.3mL. Mean length of postoperative hospital stay was 3.2 ± 0.6 days. 12 hours postoperative pain score was 4.0 ± 2.0 which reduced to 3.9 ± 1.6 at 48 hours. 78.4% of patients discontinued their PCA at 48 hours. First liquid intake was at 6.3 ± 8.5 hours, consumption of solid food at 23.4 ± 14.2 hours, urinary catheter removal at 17.8 ± 7.6 hours, first ambulation at 24 ± 12.7 hours, first flatus at 37.7 ± 20.4 hours and bowel movement at 122.1 ± 41.7 hours.

Conclusion:
Accelerated recovery protocol following PSF in severe AIS patients is feasible with comparable perioperative outcomes and recovery milestones which resulted in length of postoperative hospital stay of only 3.2 days.